

### Claims

1. Use of a composition as a sole component for attaching two surfaces to each other or coating a surface, said composition consisting of an acidic aqueous solution of a bioadhesive polyphenolic protein derived from a byssus-forming mussel, which protein comprises 30 – 300 amino acids and that consists essentially of tandemly linked peptide repeats comprising 3 – 15 amino acid residues, wherein at least 3 % and preferably 6 – 30 % of the amino acid residues of said bioadhesive polyphenolic protein are DOPA, where the pH of said acidic solution is 4 or less, and wherein the concentration said bioadhesive polyphenolic protein is 10-250 mg/ml.
2. Use according to claim 1, wherein the pH of the acidic solution is 3 or less.
3. Use according to claim 1, wherein the pH of the acidic solution is 2.5 or less.
4. Use of a composition according to claim 1-3, wherein the acidic solution comprises an organic acid.
5. Use of a composition according to claim 1-3, wherein the acidic solution comprises an inorganic acid.
6. Use of a composition according to claim 1-4, wherein the acidic solution comprises an acid chosen from the group comprising citric acid, acetic acid, and ascorbic acid.
7. Use of a composition according to claim 1-6, wherein the concentration of the bioadhesive polyphenolic protein is in the range of 10-150 mg/ml.
8. Use of a composition according to claim 1-7, wherein at least one of the surfaces to be attached or the surface to be coated is a biological surface.
9. Use of a composition according to claim 1-7, wherein at least one of the surfaces to be attached or the surface to be coated is a non-biological surface.